



---

A.D. 1861, 30th MARCH. N° 788.

---

S P E C I F I C A T I O N

OF

WILLIAM DONALD NAPIER.

---

RUBBERS FOR THE TEETH AND GUMS.

---

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

25, SOUTHAMPTON BUILDINGS, HOLBORN.

*Price 6d.*

1861.







---

A.D. 1861, 30th MARCH. N<sup>o</sup> 788.

---

## Rubbers for the Teeth and Gums.

---

**LETTERS PATENT** to William Donald Napier, of 22, George Street, Hanover Square, in the County of Middlesex, for the Invention of “**IMPROVEMENTS IN THE MANUFACTURE OF RUBBERS FOR THE HUMAN TEETH AND GUMS.**”

Sealed the 19th September 1861, and dated the 30th March 1861.

---

**PROVISIONAL SPECIFICATION** left by the said William Donald Napier, at the Office of the Commissioners of Patents, with his Petition, on the 30th March 1861.

I, WILLIAM DONALD NAPIER, of 22, George Street, Hanover Square, in the  
5 County of Middlesex, do hereby declare the nature of the Invention for  
“**IMPROVEMENTS IN THE MANUFACTURE OF RUBBERS FOR THE HUMAN TEETH AND GUMS,**” to be as follows:—

This Invention has for its object improvements in the manufacture of rubbers for the human teeth and gums. For these purposes in making rubbers vulcanized  
10 india-rubber is used in constructing a pointed or edged surface for cleaning the teeth, a plain or undulating surface for rubbing the gums, and a surface of either large or small corrugations for the purpose of rubbing both teeth and gums. All the above-mentioned surfaces are made as soft as possible consistent with durability. This dental rubber may be made triangular or otherwise,



Napier's Impts. in the Manufacture of Rubbers for Human Teeth and Gums.

presenting all or any of the surfaces described. The handle in each case may be of hard vulcanite, or of metal, or of other material which will not be injured by the heat to which the compound of india-rubber and sulphur (with or without other materials) is subjected in order to obtain the change, or the handles of such or other materials may be afterwards applied. The rubbing 5 surface for the teeth is preferred to consist of numerous small round pointed or wedge like projections, whilst the surface or surfaces for rubbing the gums, it is preferred should be smooth, and either plain or undulating. The surface for rubbing either teeth or gums is made with large or small corrugations. The proper compound of india-rubber and sulphur is placed in a suitable mould, 10 and the head or end constituting the rubber is moulded therein, the end of the handle being suitably formed and introduced into the mould, in order that the head may be moulded thereon. Heat is then applied, as is well understood, to produce the change in the india-rubber known as vulcanized india-rubber.

---

**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed 15 by the said William Donald Napier in the Great Seal Patent Office on the 30th September 1861.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, WILLIAM DONALD NAPIER**, of 22, George Street, Hanover Square, in the County of Middlesex, send greeting. 20

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Thirtieth day of March in the year of our Lord One thousand eight hundred and sixty-one, in the twenty-fourth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said William Donald Napier, Her special licence that I, the said William 25 Donald Napier, my executors, administrators, and assigns, or such others as I, the said William Donald Napier, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great 30 Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE MANUFACTURE OF RUBBERS FOR THE HUMAN TEETH AND GUMS," upon the condition (amongst others) that I, the said William Donald Napier, my executors, or administrators, by an instrument in writing, under my, or their, or one of their hands and seals, should particularly describe and 35



---

*Napier's Impts. in the Manufacture of Rubbers for Human Teeth and Gums.*

---

ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

5    **NOW KNOW YE**, that I, the said William Donald Napier, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say :—

10    This Invention has for its object improvements in the manufacture of rubbers for the human teeth and gums; for these purposes in making rubbers, vulcanized india-rubber is used in constructing a pointed or edged surface for cleaning the teeth, a plain or undulating surface for rubbing the gums, and a surface of either large or small corrugations for the purpose of rubbing both teeth and gums. All the above-mentioned surfaces are made as soft as possible consistent  
15 with durability. This dental rubber may be made triangular or otherwise, presenting all or any of the surfaces described. The handle in each case may be of hard vulcanite, or of metal, or of other material, which will not be injured by the heat to which the compound of india-rubber and sulphur (with or without other materials) is subjected in order to obtain the change, or the handles  
20 of such or other materials may be afterwards applied. The rubbing surface for the teeth is preferred to consist of numerous small round, pointed, or wedge-like projections, whilst the surface or surfaces for rubbing the gums, it is preferred should be smooth, and either plain or undulating. The surface for rubbing either teeth or gums is made with large or small corrugations. The  
25 proper compound of india-rubber and sulphur is placed in a suitable mould, and the head or end constituting the rubber is moulded therein, the end of the handle being suitable formed and introduced into the mould in order that the head may be moulded thereon. Heat is then applied, as is well understood, to produce the change in the india-rubber known as vulcanized india-rubber.

30    Having thus stated the nature of my Invention, I will proceed more fully to describe the manner of performing the same.

    I would at the onset state that it has before been proposed in making brushes for the human teeth, to employ compounds of india-rubber and sulphur, and to mould the same in dies in such manner as to form a bed or surface, together  
35 with projecting bristle-like fibres, and by heat to convert the same into that hard compound of india-rubber which resembles horn and other hard substances; but such manufacture has not come into general use, and I believe has failed, and I mention this previous use of compounds of india-rubber and sulphur, in



---

*Napier's Impts. in the Manufacture of Rubbers for Human Teeth and Gums.*

---

order to state, that although I also employ compounds of india-rubber and sulphur, and mould the rubbers in dies and apply heat thereto, I in place of producing bristle-like points on a hard bed of a like diameter produce rubbers consisting of the soft and permanently elastic compound of india-rubber and sulphur, which is well known in the manufactures of various articles where 5 softness, accompanied by permanent elasticity are required, in contradistinction to those hard compounds of india-rubber which resemble horn and other hard substances capable of being cut and worked into shape by similar tools to those employed when working horn, ebony, and other hard substances.

The shapes of the rubbers, according to my Invention, may be somewhat 10 varied, but I prefer the form or shape of the head or end of the handle to be such as to present one or more smooth sides, with one side having projecting conical or pyramidal points, and one or more sides with a rough surface produced with numerous smaller conical or pyramidal points suitable for rubbing the gums. The rubbers may, if desired, be formed on the ends of the handles, 15 and be subjected to heat together, but in such cases it will be necessary to use materials for the handles which will not be prejudicially acted on by the heat to which the compound of india-rubber is subjected, in order to produce the well known soft and permanently elastic compound of india-rubber; or the rubbers, according to my Invention, may be moulded in suitable dies, in which 20 are introduced mandrils or instruments of the form of the ends of the handles, and which mandrils being withdrawn after the rubbers have been subjected to heat, leave internal spaces suitable for receiving the ends of the handles, which should be made somewhat larger than the mandrils used, so that the rubbers may be sprung on the ends of the handles, and hold securely thereon by the 25 elasticity of the rubbers.

#### DESCRIPTION OF THE DRAWINGS.

Figure 1 shows a rubber constructed with a smooth back with two sides having angular and cross grooves or undulated surfaces, and with the front formed with conical or pyramidal points suitable for the teeth. Figure 2 30 shews another rubber with its handle having the back and front formed similarly to Figure 1, but the sides are formed with numerous small conical points or projections. Figure 3 shows a front view of a rubber formed separate from the handle, but similar to Figure 2; and Figure 4 shows the back view and handle of a like rubber to that shown in Figure 2. 35

I would state that the forms or shapes of the rubbers, according to my Invention, may be varied, and such is the case in regard to the nature of the

---

*Napier's Impts. in the Manufacture of Rubbers for Human Teeth and Gums.*

---

roughed surfaces, so long as they are made of the soft converted compound of india-rubber and sulphur; and I have only further to add that manufacturers heretofore acquainted with the making of various articles of india-rubber compounded with sulphur will, from the description above given, readily make 5 rubbers such as are above described, of the soft and permanently elastic compound of india-rubber.

In witness whereof, I, the said William Donald Napier, have hereunto set my hand and seal, this 27th day of September, in the year of our Lord One thousand eight hundred and sixty-one.

10

WILLIAM D. NAPIER. (L.S.)

---

---

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty. 1861.







A.D. 1861. MAR. 30. N<sup>o</sup> 788.  
NAPIER'S SPECIFICATION.

(1 SHEET)

FIG. 1.      FIG. 2.      FIG. 3.

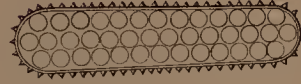
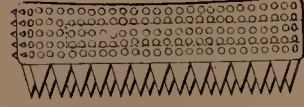
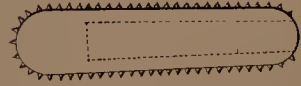


FIG. 4.



*The filed drawing is not colored.*

Drawn on Stone by Maier & Sons

LONDON: Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty 1861.

